Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

Ag 84L
#514
cl. rec.

LIBRARY
RECEIVED
MAR 5 1960
U.S. DEPARTMENT OF AGRICULTURE
BELTSVILLE BRANCH

The Meadow SPITTLEBUG

How To Control It On Legumes

Leaflet No. 514
U.S. DEPARTMENT OF AGRICULTURE

The Meadow Spittlebug

How To Control It On Legumes

If you farm in the Northeastern or North Central States, you have surely noticed, while walking through fields in the spring, masses of white froth, or spittle, on the leaves and stems of crop plants or weeds. In alfalfa or clover the masses may be so numerous that they dampen your clothes as you brush against them.

The spittle is produced by the nymphs, or young, of the meadow spittlebug.[1] The insect occurs on several cultivated crops, on forage crops, and on some weeds. It is injurious to any crop on which it occurs, but the principal injury is to forage crops, especially alfalfa and clover.

How They Damage Plants

Almost all spittlebug damage is done by the immature insects. By sucking away the juices of alfalfa or clover, the nymphs stunt the plants and reduce the yields of forage. When very abundant on alfalfa, they cause a rosetting of the terminal growth. Heavily infested plants wilt during hot weather. It is sometimes difficult to cure hay that has been dampened by large numbers of spittle masses.

Yields of hay are frequently reduced 25 to 50 percent by heavy spittlebug infestations.

You can expect more damage from the spittlebug if April and May are dry than if these months are unusually wet.

THE NYMPHS

How They Develop

You find the nymphs inside the spittle masses in April, May, or early June. They are pinkish when very small, then become yellowish-green. They hatch from eggs that were laid the previous August or September.

Soon after hatching, they secrete a liquid that is mostly plant sap. They force air through the liquid in such a way as to produce the spittle. Enveloped by the spittle, they live in the crowns or folded leaves of alfalfa or clover and suck the plant juices.

As they grow, the nymphs enlarge the masses of spittle and move to the tender new growth on the upper parts of the plants, where they continue to feed.

[1] *Philaenus spumarius.*

THE ADULTS

When the nymphs mature, usually in June, they emerge from the frothy masses as winged adults about ¼ inch long. Like leafhoppers, which they resemble, they jump quickly when disturbed. They are gray or brown, and spotted. The illustrations on page 3, which are in natural color, will help you recognize them. When the adults appear, it is too late to use insecticides, but their presence is the tip-off that nymphs will be in the field the following spring, and you can be prepared to control them.

Spittlebugs are not likely to stay long in one part of a field. Hopping and flying, they wander about, feeding on the leaves of various plants. Even when very numerous, the adults do not injure plants seriously.

The females lay compact rows of eggs in grain stubble or old plant stems. There are usually 2 to 20 eggs in a row.

A, A nymph and three color variations of adults (all enlarged).

B, Infested alfalfa plant, with masses of spittle.

C, Uninfested alfalfa plant.

D, Eggs (greatly enlarged).

CONTROL

You will find it profitable to control the meadow spittlebug with an insecticide. Forage yields have been increased as much as 90 percent by control of this insect, and the quality of the hay has been greatly improved.

Spray within a week after the eggs begin to hatch. This will be when the first small masses of froth are produced in the crown of the plants. Alfalfa is usually 4 to 6 inches high at this time. The date ranges from early April to as late as May 20, depending on the locality and on weather conditions.

If you spray too late, the nymphs will be harder to kill. They will be larger and will be protected by more foliage.

Apply 1 pound of methoxychlor per acre.

Good spittlebug control can also be obtained by spraying in the fall to kill adults before they lay their eggs. Apply 1½ pounds of methoxychlor per acre in early September.

Purchase the insecticide in the form of an emulsifiable concentrate. Dilute it with water in an amount to suit the equipment. Use any type of air or ground equipment that will apply the spray efficiently. Apply at least 10 gallons of spray to the acre if you use a ground sprayer, and not less than 2 gallons to the acre by air.

If it is late in the spring before you notice a heavy infestation of spittlebugs in your fields, cut the crop as early as practicable. Before storing the hay, be sure to let it dry thoroughly, to prevent damage from mold.

PRECAUTIONS

Insecticides used improperly can be injurious to man and animals. Use them only when needed and handle them with care. Follow the directions and heed all precautions on the labels.

Keep insecticides in closed, well-labeled containers in a dry place. Store them where they will not contaminate food or feed, and where children and animals cannot reach them. Promptly dispose of empty insecticide containers; do not use for any other purpose.

When handling an insecticide, wear clean, dry clothing.

Avoid repeated or prolonged contact of insecticide with your skin.

Wear protective clothing and equipment if specified on the container label. Avoid prolonged inhalation of insecticide dusts or mists.

Avoid spilling an insecticide concentrate on your skin, and keep it out of your eyes, nose, and mouth. If you spill a concentrate on your skin, wash it off immediately with soap and water. If you spill a concentrate on your clothing, remove clothing immediately and wash the skin thoroughly. Launder the clothing before wearing it again.

After handling an insecticide, do not eat, drink, or smoke until you have washed your hands and face. Wash any exposed skin immediately after applying an insecticide.

Avoid drift of insecticide to nearby wildlife habitats, bee yards, crops, or livestock. Do not apply insecticides under conditions favoring drift from the area to be treated.

Many insecticides are highly toxic to fish and aquatic animals. Keep insecticides out of all water sources such as ponds, streams, and wells. Do not clean spraying equipment or dump excess spray material near such water.

Do not apply insecticides to plants during hours when honey bees and other pollinating insects are visiting them.

Have empty insecticide containers buried at a sanitary land-fill dump, or crush and bury them at least 18 inches deep in a level, isolated place where they will not contaminate water supplies.

Do not cut or allow animals to feed on alfalfa or clover for 7 days after treatment with methoxychlor.

Prepared by Entomology Research Division,
Agricultural Research Service

This leaflet supersedes Leaflet 341, "The Meadow Spittlebug—How To Control It."

Washington, D.C.

Issued July 1962
Slightly Revised November 1968

U.S. GOVERNMENT PRINTING OFFICE 16—80312-1

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 20 cents